

**TITLE**

**MULTI-STAGE EMAIL INTERCEPTION METHOD**

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**BACKGROUND OF THE INVENTION**

**Field of the Invention**

The present invention relates to an email interception  
10 method, and particularly to an email interception method that  
records the related information of email messages in a  
first-in-first-out (FIFO) array and intercepts email messages  
according to its characteristics in multiple stages.

15 **Description of the Related Art**

With the rise in communicating messages via network, email  
has become a daily routine for most people. However, unchecked  
garbage email and commercial email is a problem. Further, the  
large volume of unchecked garbage email and commercial email may  
20 cause the consumption of network bandwidth and the reduction of  
system performance for enterprise.

Conventional methods of intercepting garbage email and  
commercial email involve checking the subject and sender of  
email, or querying an anti-unwanted email database to achieve  
25 the interception. However, the actual subject of email will be  
always changed, for example, a serial number is added to the  
subject, or the sender may frequently change free email  
accounts. Therefore, the conventional methods lose the ability  
to intercept unacceptable email. In addition, conventional  
30 methods further limit the number of recipients at a time or delay

the transmission time if the number of recipients is higher than the upper limitation. However, this only intercepts or registers email with a large number of recipients, it cannot intercept garbage email and commercial email accurately.

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### SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an email interception method that records the related information of email in a first-in-first-out array and intercepts email according to its characteristics in multiple stages.

To achieve the above object, the present invention provides a multi-stage email interception method. First, an email message is received. Then, the receiving number corresponding to the email message is queried from an array according to the related information of the email message.

Thereafter, the email message is rejected if the receiving number is higher than a first setting value and the email message conforms to email characteristics recorded in a specific email record; the email message is accepted first and then deleted if the receiving number is higher than a second setting value and the email address of the recipient of the email message does not appear in the recipient field of the email message; and the email message is accepted and forwarded to a specific mailbox if the receiving number is lower than the second setting value and more than a third setting value and the email address of the recipient of the email message does not appear in the recipient field of the email message. The first setting value is larger than the second setting value, and the second setting value is larger than the third setting value.

According to the embodiment, the email characteristics corresponding to the email message is recorded into the specific email record if the receiving number is higher than a second setting value and the email address of the recipient of the email message does not appear in the recipient field of the email message.

Further, the related information of the email message is recorded into the array. The related information of the email message includes the subject and text information of the email message. The email characteristics includes the network address of the host sending the email message, the name and email address of the sender included in the sender information, and the subject.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The aforementioned objects, features and advantages of this invention will become apparent by referring to the following detailed description of the preferred embodiment with reference to the accompanying drawings, wherein:

Fig. 1 is a flow chart illustrating the operation of a multi-stage email interception method according to the embodiment of the present invention.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Fig. 1 shows a flow chart illustrating the operation of a multi-stage email interception method according to the embodiment of the present invention. Referring to Fig. 1, the embodiment of the present invention is described as follows.

The present invention is suitable for implementation in a mail gateway, so as to intercept unacceptable email.

First, in step S10, an email message is received. Then, in step 11, the receiving number corresponding to the email message is queried from an array according to the related information of the email message. The receiving number is the  
5 times of the email message received by the mail gateway. The related information of the email message may include the subject, number of recipients, sender (FROM), recipients (TO), copy recipients (CC), hidden copy recipients (BCC) and text information, such as the first line of the text of the email  
10 message. The array can be a first-in-first-out array to store the related information of email message received for a period. Since this array is a first-in-first-out array, the oldest related information will be replaced by the related information of new received email message if the array is full. Then, in  
15 step S12, the related information of the received email message is recorded into the array.

Thereafter, in step S13, the receiving number is assessed as being higher than a first setting value and the email message is determined whether it conforms to the email characteristics  
20 recorded in a specific email record. The specific email record is used to record the email characteristics corresponding to unacceptable email, the email characteristics may include the network address of the host sending the email message, the name and email address of the sender included in the sender  
25 information, and the subject.

Then, in step S14, the email message is rejected directly if the receiving number is higher than the first setting value and the email message conforms to the email characteristics recorded in the specific email record (the YES in step S13).

If the receiving number is lower than the first setting value and/or the email does not conform to the email characteristics recorded in the specific email record (the NO in step S13), in step S15, the receiving number is assessed as being higher than a second setting value and the email address of the recipient of the email message is assessed as appearing in the various recipient fields, such as recipient (TO), copy recipients (CC), and hidden copy recipients (BCC) of the email message.

If the receiving number is higher than the second setting value and the email address of the recipient of the email message does not appear in the recipient field of the email message (the YES in step S15), then in step S16, the email characteristics corresponding to the email message are recorded into the specific email record, and then in step S17, the email message is accepted first and then deleted. It should be noted that the process in step S17 is used to avoid notice by the sender of the deletion of email directly.

If the receiving number is lower than the second setting value and/or the email address of the recipient of the email message appears in the recipient field of the email message (the NO in step S15), in step S18, the receiving number is determined whether it is lower than the second setting value and more than a third setting value and the email address of the recipient of the email message is assessed as appearing in the recipient field.

Then, in step S19, the email message is accepted and forwarded to a specific mailbox if the receiving number is lower than the second setting value and more than the third setting value and the email address of the recipient of the email message

does not appear in the recipient field of the email message (the YES in step S18). The specific mailbox is used to store the email message classified as unacceptable. In step S20, the email message is accepted and forwarded to the corresponding recipients if the receiving number is lower than the third setting value and/or the email address of the recipient of the email message appears in the recipient field of the email message (the No in step S18).

I should be noted that the first setting value is larger than the second setting value, and the second setting value is larger than the third setting value. These setting values can be set according to various applications, such as personal email management or enterprise email management.

As a result the multi-stage email interception method according to the present invention can record the related information of email messages in a first-in-first-out array and intercept email messages according to characteristics in multiple stages.

Although the present invention has been described in its preferred embodiment, it is not intended to limit the invention to the precise embodiment disclosed herein. Those who are skilled in this technology can still make various alterations and modifications without departing from the scope and spirit of this invention. Therefore, the scope of the present invention shall be defined and protected by the following claims and their equivalents.